

SYSTEM 5010 BROADMOOR

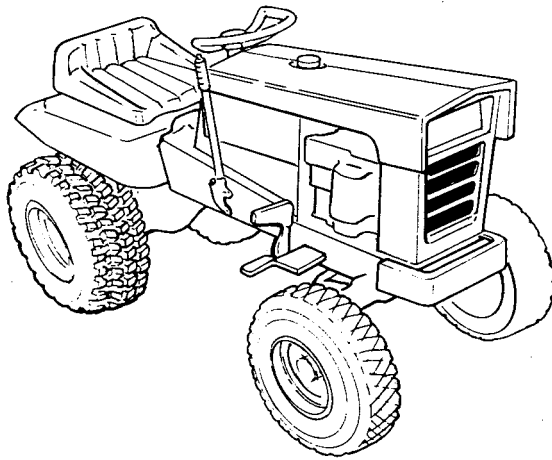


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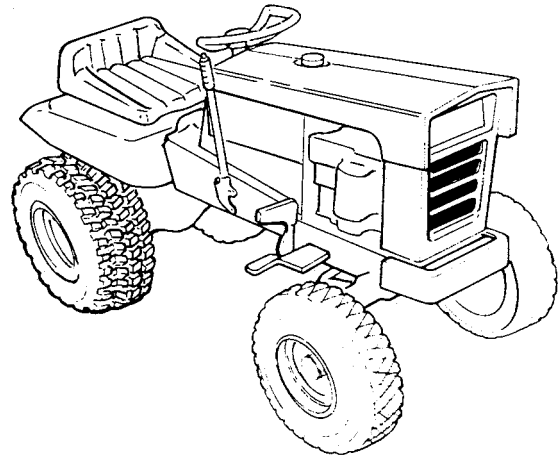
PARTS MANUAL

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SYSTEM 5008



SYSTEM 5010



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Safety Rules *This notation preceding Cautions and Warnings in the text signifies important precautionary steps which, if not properly followed, could result in personal injury or damage to your equipment.*

General	<ul style="list-style-type: none">• Read the Operating and Service Instructions carefully. Be thoroughly familiar with the controls and the proper use of the equipment.• Never allow children to operate the machine. Do not allow adults to operate it without proper instruction.• Do not carry passengers.• Keep the area of operation clear of all persons, particularly small children and pets.	<ul style="list-style-type: none">• When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the vehicle while in operation.• Make sure<ul style="list-style-type: none">a. tractor and attachments are in good operating condition,b. all safety devices and shields are in place and in good working condition, andc. all adjustments, (cutting height, etc.), have been made.
Preparation	<ul style="list-style-type: none">• Handle gasoline with care — it is highly flammable.<ul style="list-style-type: none">a. Use approved gasoline container.b. Never remove the cap of the fuel tank or add gasoline to a running or hot engine, or fill the fuel tank indoors. Wipe up spilled gasoline.• Do not run the engine indoors. Exhaust fumes are dangerous.	<ul style="list-style-type: none">• Clear the work area of objects which might be picked up and thrown.• Disengage all attachment clutches and shift into neutral before attempting to start the engine.• Wear heavy footwear. Do not operate tractor when barefoot or when wearing open sandals or canvas shoes.
Operation	<ul style="list-style-type: none">• Disengage power to attachment(s) and stop the engine before leaving the operator's position.• Disengage power to attachment(s) and stop the engine before making any repairs or adjustments.• Shut the engine off when unclogging chute.• Disengage power to attachment(s) when transporting or not in use.• When using the vehicle with mower, proceed as follows:<ul style="list-style-type: none">a. Mow only in daylight or in good artificial light.b. Never make a cutting height adjustment while the engine is running if the operator must dismount to do so.c. Check the blade mounting bolts for proper tightness at frequent intervals.• Do not stop or start suddenly when going uphill or downhill. Mow up and down the face of steep slopes; never across the face.• Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Use extreme caution when changing direction on slopes.	<ul style="list-style-type: none">• Stay alert for holes in the terrain and other hidden hazards. Be extra careful when operating on wet or slippery surfaces.• The vehicle and attachments should be stopped and inspected for damage after striking a foreign object, and the damage should be repaired before restarting and operating the equipment.• Watch out for traffic when crossing or near roadways.• If equipment begins to vibrate abnormally — disengage power to attachments and stop engine at once. Inspect for damage and correct before starting up tractor.• Use care when pulling loads or using heavy equipment.<ul style="list-style-type: none">a. Use only drawbar hitch point.b. Limit loads to those you can safely control.c. Do not turn sharply. Use care when backing.d. Use counterweight(s) or wheel weights when suggested in the owner's manual.• Take all possible precautions when leaving the vehicle unattended, such as disengaging the power take-off, lowering the attachment(s), shifting into neutral, setting the parking brake, stopping the engine, and removing the key.• Keep the vehicle and attachments in good operating condition, and keep safety devices in place.
Maintenance and Storage	<ul style="list-style-type: none">• Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.• Do not change the engine governor settings or overspeed the engine.	<ul style="list-style-type: none">• To reduce fire hazard, keep the engine free of grass, leaves, or excessive grease.• Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.

Owner Benefits



Easy steering — the all-gear steering system is designed to give reliable steering for excellent maneuverability and trouble free long life. The short turning radius allows you to work around tight corners and in confined areas.



Heavy gauge electrically welded frame of sturdy channel construction takes on rugged jobs with dependable long life operation.



Dependable all-gear transaxle has limited slip differential which permits traction even when one wheel is on a slippery surface. Gears are fully enclosed, sealed and lubricated.



Dependable, rugged engines—The 5008 has an 8 horsepower engine, and the 5010 has a 10 horsepower, synchro-balanced engine. Both engines have mechanical governors to assure smooth engine performance under varying load conditions.



Combined clutch and brake pedal insures safe starting and stopping with easy rocker action.

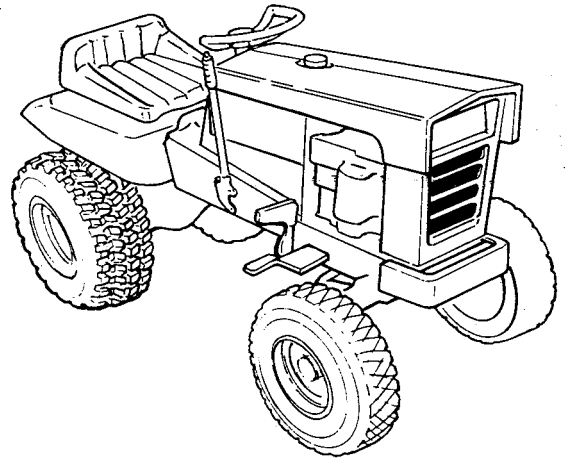


Large wide tires give comfortable ride and protect most sensitive lawns.

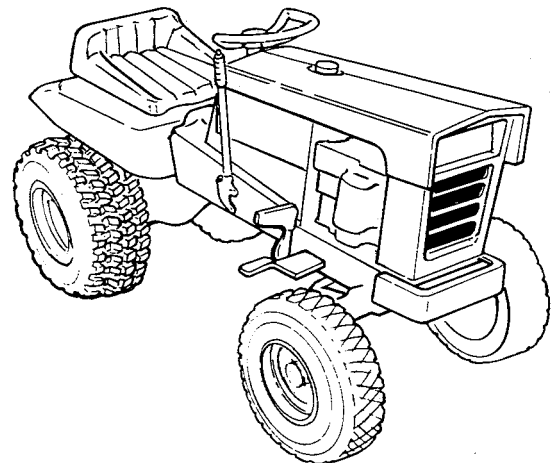
Conveniently located parking brake keeps tractor still when tractor is unattended.

Dash-mounted operating controls are easily accessible and provide quick finger-tip operator response.

SYSTEM 5008



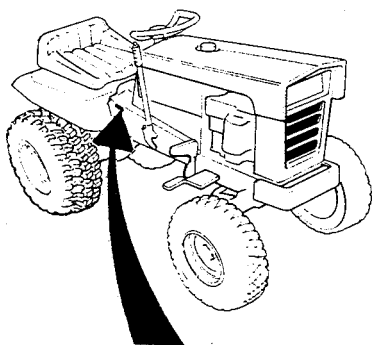
SYSTEM 5010



Fast starting under most extreme weather conditions is assured with heavy duty 12-volt electric starter and alternator with automotive type battery. Ammeter included as standard equipment.

Forward tilting hood and grille makes engine compartment easily accessible for repairs and maintenance.

When ordering replacement parts for your Simplicity tractor, be prepared to give your dealer the identification numbers found on the tractor and engine identification plates shown below. The identification plate for the tractor is located on the right frame in front of the tractor seat. The engine I.D. plate is located on the left side of the engine blower housing. We suggest that you locate the numbers and record them below for easy reference.

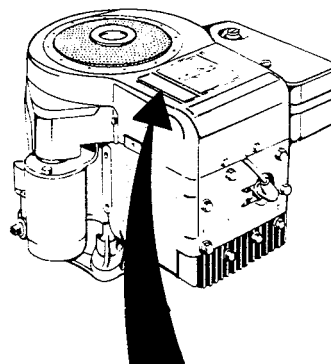


SIMPLICITY MANUFACTURING CO.
PORT WASHINGTON, WIS., U.S.A.

Refer to i.d. no. when
writing or ordering parts.

I.D. No.

TRACTOR IDENTIFICATION PLATE



MODEL

TYPE

CODE

ENGINE IDENTIFICATION PLATE

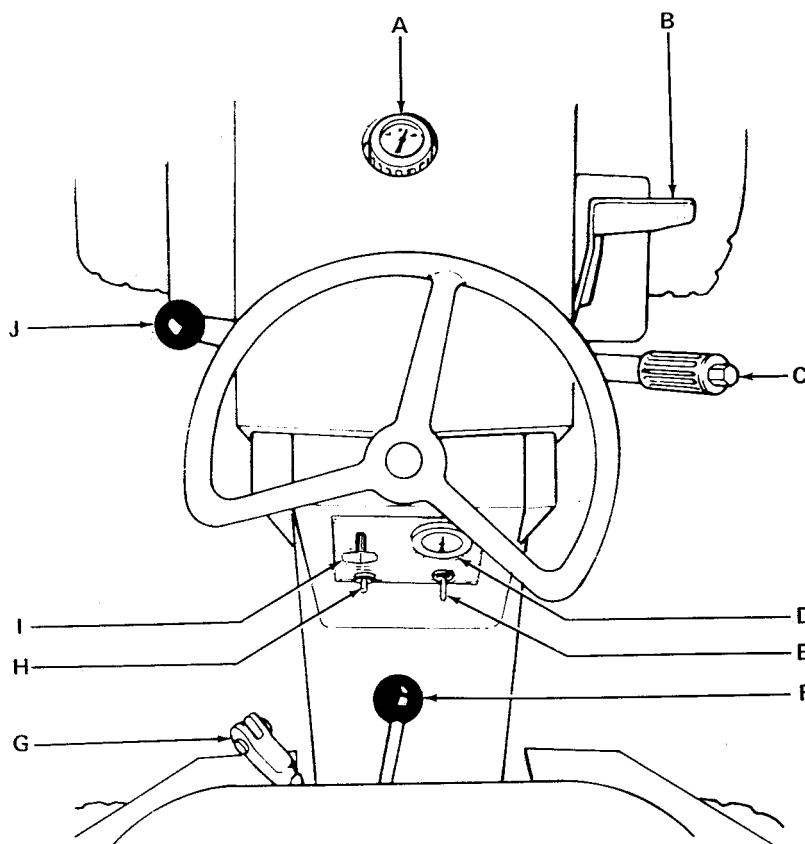
Operation

CONTENT OF SECTION

This section begins with a brief description of the tractor controls, followed by the basic tractor operating procedures.

TRACTOR CONTROLS

Figure 1 shows the location, name, and function of each of the tractor controls. The control names given in figure 1 are used throughout the manual.



Item	Name	Function
A	Fuel Gauge Cap	Shows fuel level and serves as cap for fuel tank.
B	Clutch-Brake Pedal	Controls both main clutch and brake. Disengages clutch when pressed down at least halfway. Applies brake when fully depressed.
C	Lift Lever	Lifts and locks attachments such as the rotary mower in transport position. Pushbutton atop lever opens lock to lower attachment to work position.
D	Ammeter	Shows when battery is being charged or discharged.
E	Ignition Switch	Operates with key to start, run, or turn off engine.

Item	Name	Function
F	Gear Shift Lever	Shifts transmission gears to control ground speed and direction of travel.
G	Parking Brake Lever	Locks brake to hold tractor in parked position.
H	Light Switch	Switches tractor headlights on or off. (Optional)
I	Engine Control	Operates engine choke and throttle. Positioned at CHOKE to start engine. Positions from SLOW to FAST used to adjust engine speed.
J	PTO (Power Take-Off) Clutch Lever	Operates clutch for power driven attachments. Used to turn attachments on and off.

Figure 1. Location and Functions of Tractor Controls

OPERATING PROCEDURES

The rest of this section contains tractor operating procedures. The procedures assume that the tractor is working properly. If the tractor fails to perform satisfactorily during operation, refer to the troubleshooting procedures in the Troubleshooting Section of this manual.

The procedures in this section have been arranged in the normal sequence of operations starting with "Checks before Starting" through "Operating with Attachments". The arrangement is intended to acquaint you as the operator with the fundamental operating procedures to insure the safe, efficient operation of your tractor. It is recommended that when operating the tractor for the first time that you proceed through the following operational checks in sequence:

- Location and Function of Controls
- Checks Before Starting
- Stopping the Tractor
- Selecting and Shifting Gears
- Starting the Engine
- Starting Tractor into Motion
- Before Leaving the Tractor

NOTE

When driving the tractor for the first time, start off in first gear and drive only on level ground. Get the feel of starting, stopping, and starting again. Then increase speed by adjusting the engine control and by selecting second and third gears.

Before starting any operations it is essential that you review and become completely familiar with the Safety Rules on page 2.

After you have become familiar with all of the above procedures you should be ready to operate the tractor and attachments. Refer to the paragraph in this section titled "Operating with Attachments" and the appropriate manual for the attachment.

Checks Before Starting

The checks below should be performed before starting the engine for the first time. Repeat these checks each time you use the tractor to insure that it is ready for use.

1. Refer to Normal Care Section of this manual to determine and perform needed care.

2. Seat yourself on the tractor. Try operating some of the controls to see if the seat position fits you. If not, see the seat adjustment procedure in the Adjustments Section of this manual.
3. Check the fuel gauge. Be sure that you have enough fuel for the job you intend to perform. If more fuel is needed, fill the tank as follows:

⚠ WARNING

Gasoline is highly flammable and must be handled with care. Never fill the tank when the engine is still hot from recent operation. Do not allow open flame, smoking or matches in the area. Avoid overfilling and wipe up any spills.

- a. Remove fuel gauge cap as shown in figure 2.
- b. Fill fuel tank completely with clean, fresh, leaded or nonleaded regular grade gasoline.
- c. Install and hand tighten fuel gauge cap.

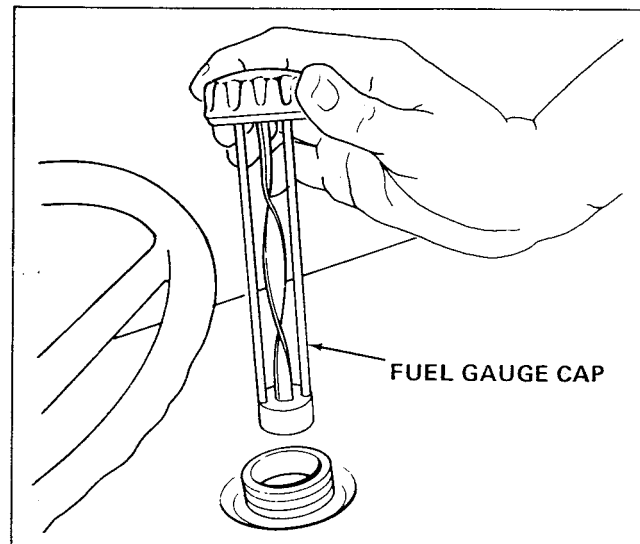


Figure 2. Remove Fuel Gauge Cap

Stopping the Tractor

The clutch-brake pedal is used to produce either gradual or rapid stops. For a gradual stop on level ground, press the pedal down only far enough to disengage the clutch. For a more rapid stop, press the pedal down further to also apply the brake.

Try to avoid sudden stops on hills. Also avoid using the brake to control downhill speed. Select a low gear and a slow engine speed before starting downhill.

Selecting and Shifting Gears

The transmission gears are shifted by moving the gear shift lever. The gear shift lever has five positions. These positions are for neutral, reverse, and the three forward speeds. Shift gears as follows:

1. Determine the gear best suited for the tractor's movement. Use guides below:

NOTE

When using an attachment, consult attachment manual for proper gear and speed.

- Neutral gear position disengages engine from rear drive wheels. Select neutral to enable engine starting.
 - Reverse gear drives the tractor backwards. Select this gear to back up.
 - First gear produces slow tractor speeds in the forward direction. The fastest possible speed in this gear is just over 1 mile per hour. Use this gear to travel up or down steep hills or over rough ground.
 - Second gear produces medium tractor speeds up to nearly 3 miles per hour in the forward direction. Use this gear for travel on slight slopes or where the ground is fairly smooth.
 - Third gear produces a maximum tractor speed of just over 4 miles per hour in a forward direction. Use this gear to travel longer distances over ground or pavement that is smooth and level.
2. Press down on clutch-brake pedal to disengage clutch.
 3. Bring tractor to a complete stop.

NOTE

A decal on the tractor below the gear shift lever shows the shift pattern. Remember the actual neutral position is up and down rather than forward and backward as shown on the drawing.

4. Move the gear shift lever to the position for the desired gear. You are now ready to start or resume tractor motion.



WARNING

Do not start or run engine in an enclosed area. Open doors if in garage — exhaust fumes are dangerous.

Starting the Engine

Complete the "Checks Before Starting" procedures. Then proceed as follows:

1. Seat yourself on the tractor.
2. Set parking brake by lifting parking brake lever up and back until it sets itself against fender.
3. Set engine control to CHOKE position. When engine is warm, it may not be necessary to choke engine.
4. Pull PTO clutch lever up and fully back to disengage PTO clutch.
5. Set gear shift lever to neutral position.
6. Press clutch-brake pedal down to disengage clutch. Keep clutch depressed until engine starts.

NOTE

For your safety the transmission gear shift lever has to be in neutral and PTO lever in fully disengaged position before engine will start.

7. Insert key in ignition switch and turn it to START. The electric starter motor will run. Repeat steps 4 and 5 if engine does not turn over.
8. When the engine starts, release the key. It will return to the ON position for normal running.
9. Move engine control to SLOW position.
10. Warmup engine by running it for at least 1-minute before engaging PTO clutch or driving tractor.

Starting Tractor into Motion

This procedure describes how to safely start the tractor into motion after starting the engine and selecting a gear.

1. Rotate steering wheel to straighten front wheels.
2. Set engine control for 1/3 to 1/2 speed.
3. Release parking brake.
4. Verify that path in desired direction of movement is clear.
5. Slowly release clutch-brake pedal to engage clutch and set tractor into motion.
6. Adjust engine control for desired speed.

Operating with Attachments

This paragraph describes a general procedure for tractor operation with attachments.

1. Start engine after insuring that attachment is properly installed and ready for use. Refer to attachment manual for details.
2. Pull lift lever back to raise attachment.
3. Select and shift into gear best suited to travel to work site.
4. Start tractor into motion and proceed to work site.
5. At work site, bring tractor to complete stop.
6. Shift into neutral gear position.
7. Unlock lift lever and lower attachment. To unlock lift lever, pull lever back slightly before pressing lock release pushbutton on top of lever.
8. Clear work site of any objects that might be thrown by or get caught in attachment.
9. Be sure that the attachment discharge is not directed toward people or pets.
10. If PTO is being used, slowly rotate PTO clutch lever completely forward and down to engage attachment.
11. Adjust engine speed control (usually about 3/4 speed) and shift to gear best suited to attachment operation. (Refer to attachment manual or to guide at end of manual, figure 23.

12. Start tractor into motion.

NOTE

Complete remaining steps to return machine to storage site.

13. Disengage PTO, stop tractor motion, and shift to neutral.
14. Raise attachment to travel position.
15. Shift into desired gear and resume tractor motion to return to storage site.

Before Leaving Tractor

To prevent accidents, perform steps below before leaving tractor seat.

1. Disengage PTO, stop tractor motion, and shift to neutral.
2. Bring tractor to a complete stop.
3. Set engine control to SLOW.

CAUTION

Stopping a hot engine too suddenly can cause engine damage. Move engine control to SLOW and idle engine for about one minute before stopping engine.

4. Set parking brake.
5. Release clutch-brake pedal.
6. Turn ignition key to OFF and remove key.
7. Shift into gear and lower attachments.

Normal Care

CONTENT OF SECTION

Your tractor was designed and built to provide years of service with only minor care. Certain tasks however, must be performed to keep the tractor in good operating condition and to avoid costly repairs. This section shows you how to provide for the necessary care for the tractor. To service an attachment, refer to the separate manual for that attachment.

SCHEDULED CARE

A schedule for routine care is provided in figure 3. We suggest that you at least check these items to insure that the tractor is ready for use. Performing the checks will also help you to become familiar with the care of the tractor.

All other scheduled care is performed after operating the tractor for a specific amount of time. See figures 4 through 10. Remember to perform the "every 25-hour check" when you perform the "every 100-hour check."

Because the schedule is based on operating time, it will be necessary to determine or estimate the actual operating time. This is easily accomplished if your tractor is equipped with an optional hour meter. If not, you can determine normal times for regular jobs such as cutting your lawn. Multiply these normal times by the number of times you perform the jobs to estimate total operating time.

A Maintenance Record (figure 24, at end of manual) is provided to help you keep a record of all operating hours and maintenance repair actions.

NORMAL STORAGE

To protect your tractor, store it in an enclosed dry area. Do not store it in an enclosure where fumes from the fuel tank could reach an open flame without first draining the fuel tank.

To store your tractor in a cold area between winter snow removal jobs, we suggest that you fill the fuel tank at the completion of each job to prevent water condensation in the fuel tank.

If you do not intend to use your tractor during the winter months, follow these off-season storage instructions.

OFF-SEASON STORAGE

When the tractor is to be stored for two months or longer, take precautions as follows:

NOTE

Fuel may be stored in the tank or in a container for longer periods if a gasoline stabilizer is used. This additive, available from your dealer, prevents formations of gum and varnish for up to one year.

1. Drain fuel tank if stabilizer is not used. This can be done by removing the fuel hose at the engine and draining the hose into a container.

Care Required	See Figure	Schedule				
		Before First Use	Every 5 Hours	** Every 25 Hours	Every 100 Hours	*** Spring and Fall
Check Tractor and Engine	4	•	•			
Clean Engine and Air Filter	5			•		
Change Engine Oil*	6			•		•
Lubricate Tractor	7	•		•		
Check Fluid Levels and Tire Pressure	8	•		•		
Clean Battery and Cables	9				•	
Clean or Replace Spark Plug	10				•	
*Change original engine oil after first 5 hours of operation. **More often in hot (over 70° F) weather or dusty operating conditions. ***Only if tractor is used in both summer (over 40° F) and winter (under 40° F).						

Figure 3. Summary of Scheduled Care

2. After reconnecting fuel hose, run engine until it stops.
3. Change engine oil while the engine is still warm. (See figure 6.) Make a note of the type and weight of oil put in crankcase.
4. Remove spark plug. Pour one ounce of 10W-30 oil into engine through spark plug hole. Crank engine a few times to distribute oil and then reinstall the spark plug.
5. Lubricate tractor. (See figure 7.)
6. Be sure that the battery is filled to the proper level with water and is fully charged. Battery life will be extended if it is removed and stored in a cool, dry place, and fully charged about once a month. (See figure 9.)

WARNING

Batteries contain a strong acid. Use care when handling or storing a battery to prevent an accidental spill of the battery acid.

7. Block machine up off the wheels to remove weight and keep tires off a damp floor. Protect tires from prolonged exposure to sunlight.
8. At end of storage period, follow instructions in the "Starting after Storage" paragraph which follows.

STARTING AFTER STORAGE

Before starting the tractor after a period of off-season storage, perform the following:

1. Remove spark plug and wipe dry. Crank engine a few times to blow excess oil out of plug hole. Then reinstall the plug.
2. Fill fuel tank with fresh gasoline (unless a fuel stabilizer was used).
3. Clean engine fins and air filter. (See figure 5.)
4. Check fluid levels and tire pressure. (See figure 8.)
5. Replace battery, if removed. Be sure terminals and clamps are clean when reassembling. (See figure 9.)

6. Start the engine outdoors or in a well ventilated area. Do not run engine at high speeds immediately after starting.

Hot Weather Operation

When operating the tractor at temperatures above 75°F pay particular attention to the following items to prevent damage.

1. Keep the engine cooling fins and fan screen clean and free of obstruction which would decrease air flow to and from the engine. See page 12 for cleaning instructions.
2. Insure that you are using the proper grade and weight of oil in the engine for the temperature where the tractor is being used. Check the oil level each time you fill the fuel tank. **DO NOT OVERFILL THE CRANKCASE — ENGINE OVERHEATING MAY RESULT.**
3. Check the battery water level more frequently than every 25 hours which is recommended under normal conditions. High temperatures cause faster evaporation of water from the battery.
4. Remove the carburetor heat deflector used with the snow thrower or dozer blade.

Cold Weather Operation

When the tractor is being used in temperatures below 30°F, check the following items closely:

1. Use the correct grade and weight of oil for the temperature conditions. Change the oil only when the engine is warm. If an unexpected temperature drop occurs when the engine is filled with summer oil, before starting the engine, move the tractor to a warm location until the oil will flow freely.
2. Use fresh fuel. Fill the fuel tank after each day's use to protect against moisture condensation.
3. Disengage the clutch when starting the engine.
4. Install the heat deflector furnished with the snow thrower or dozer blade if these attachments are to be used.

Dusty Operating Conditions

When the tractor is operated in dusty or dirty conditions check the following items closely:

1. Keep the engine fins and cooling fan screen clean and free of materials which will decrease air flow.
2. Service the air cleaner more frequently. Clean

it as often as necessary to allow air to flow to the carburetor freely.

3. Change the engine oil more frequently. The oil should be changed more often than every 25 hours as is recommended under normal conditions, change every 10 operating hours.

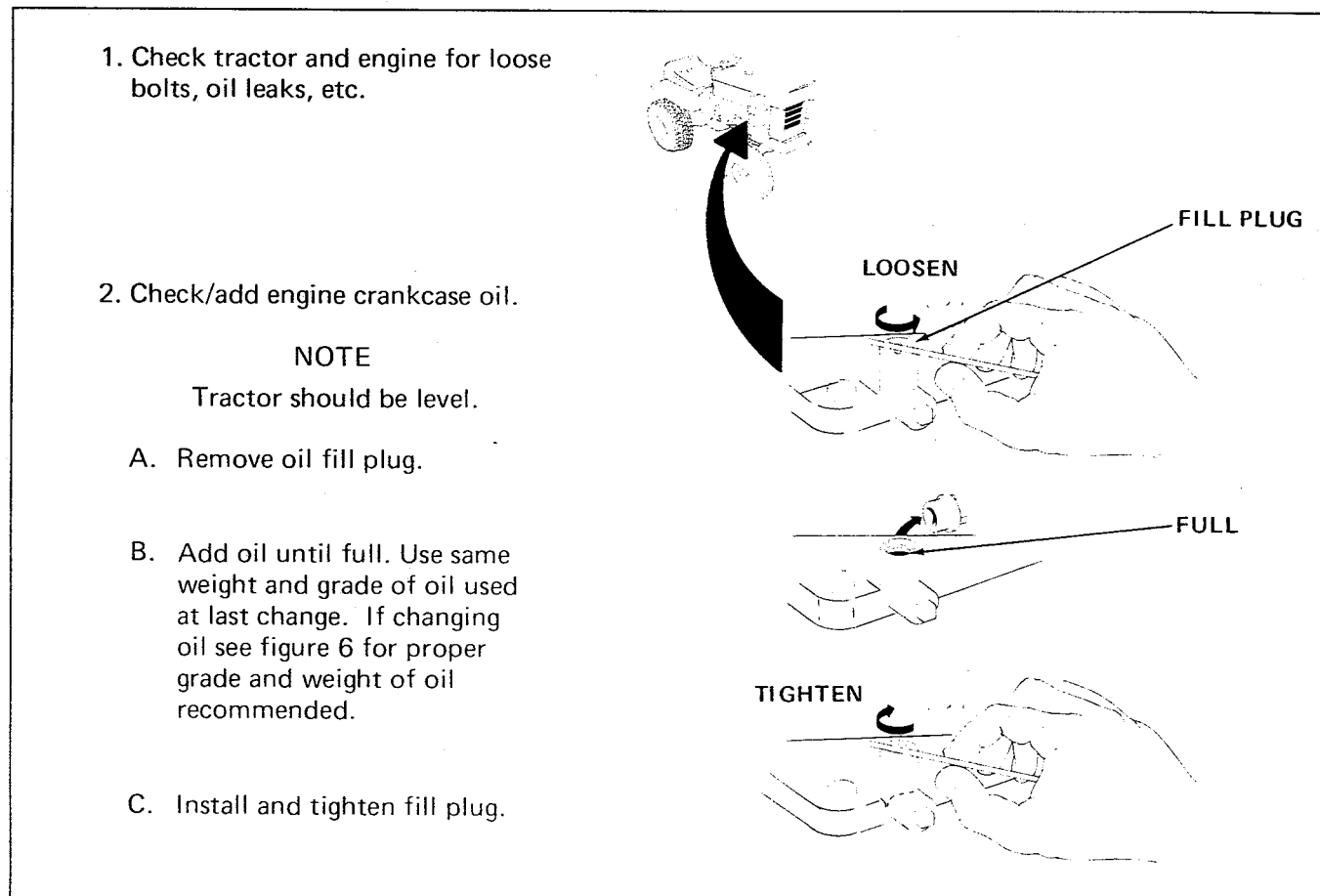
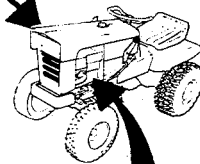
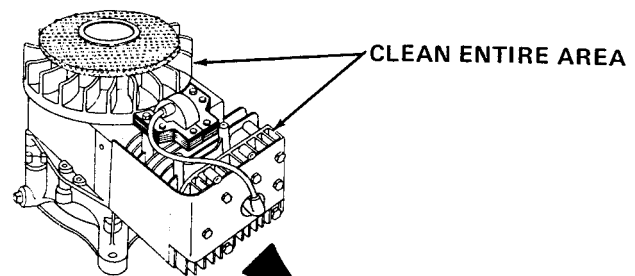
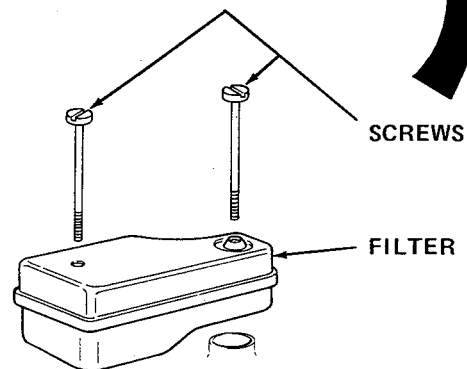


Figure 4. Check Tractor and Engine (5-Hour Care)

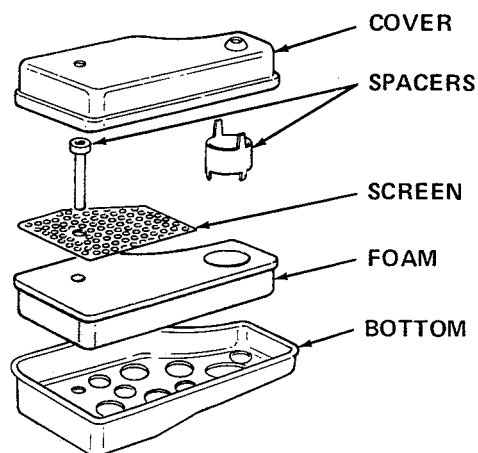
1. Clean all dirt and grass from engine fins. Remove cover as necessary.



2. Clean engine air filter.
 - A. Remove two screws.
 - B. Lift air filter from engine.



- C. Take apart air filter.
 - D. Wash foam with kerosene or soap and water.
 - E. Dry foam.
 - F. Soak foam with lightweight oil; squeeze several times to spread oil evenly and to remove excess.



- G. Assemble air filter. Make sure foam extends over lip of bottom.
 - H. Install clean air filter on engine. Secure with the two screws.

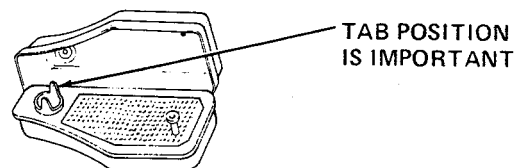
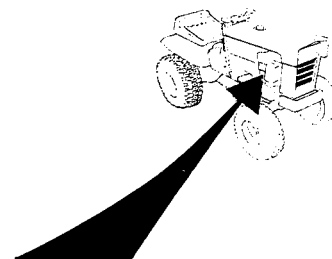


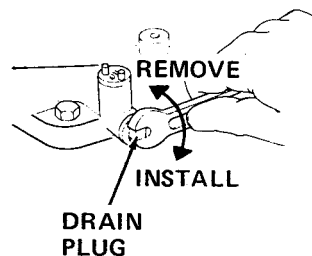
Figure 5. Clean Engine and Air Filter (25-Hour Care); or as required.

NOTE

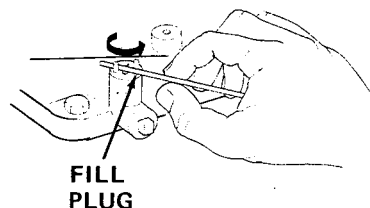
Change oil while engine is still warm from operation.



1. Remove drain plug.
2. Drain old oil.
3. Install and tighten drain plug.



4. Remove fill plug.

**CAUTION**

To avoid engine damage, use only high quality detergent oil of the correct grade and weight. The grade (service) marking on the can may be MS, SE, SC, or SD. The correct weight varies with the season as follows:

Summer	Winter
(Above 40° F) Use SAE 30, or SAE 10W-30.	(Between 0 & 40° F) Use SAE 5W-20 or SAE 5W-30.
	(Below 0° F) Use SAE 10W or SAE 10W-30 diluted 10% with kerosene.

5. Add new oil until fill pipe overflows. Pour slowly. Capacity is about 1-1/2 quarts.
6. Install and tighten fill plug.

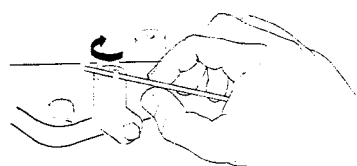
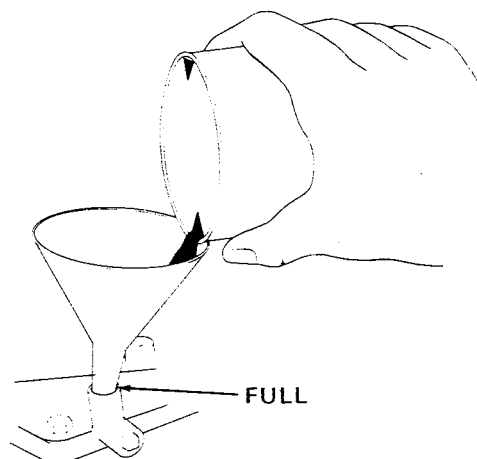
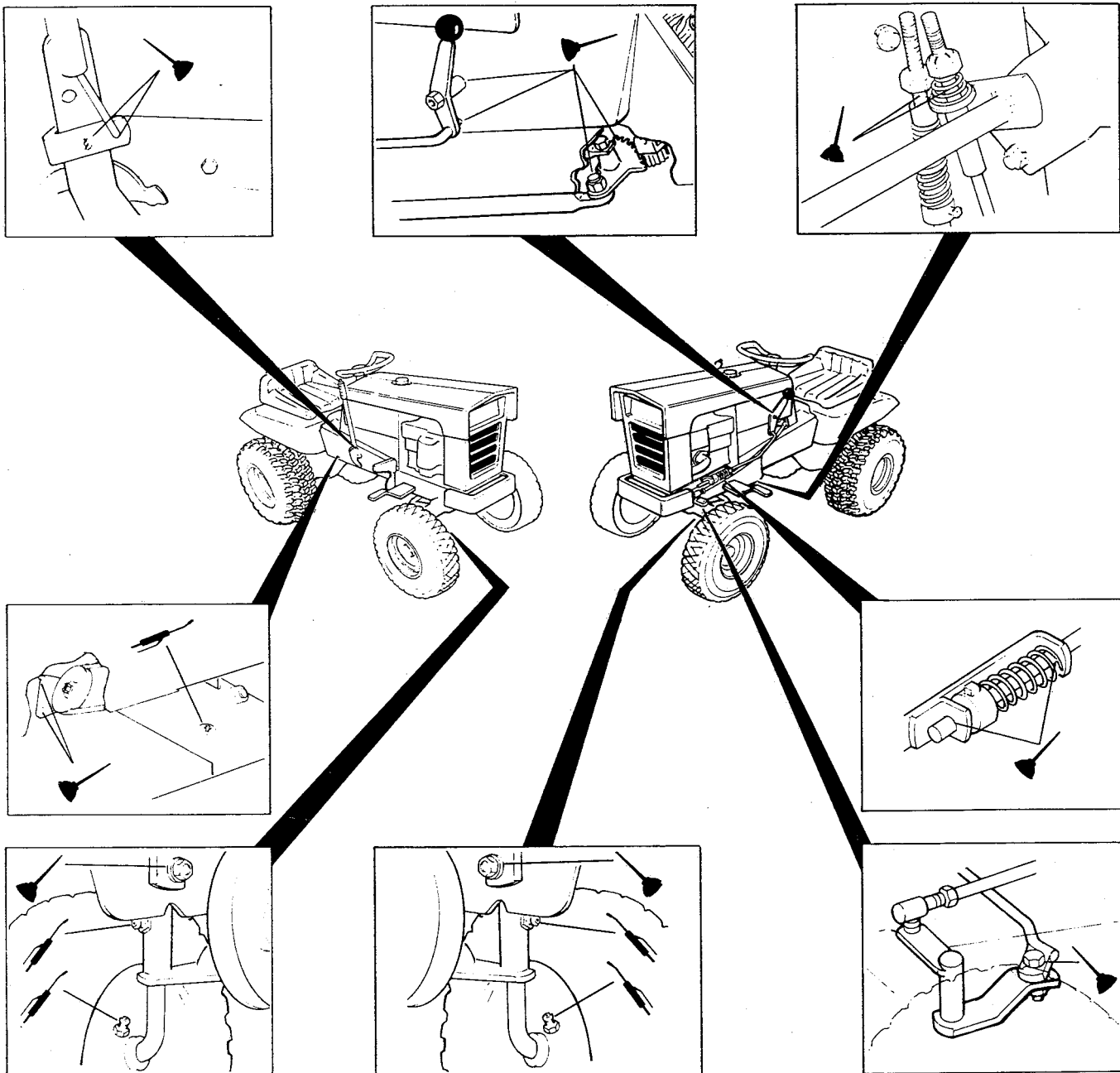


Figure 6. Change Engine Oil (25-Hour Care)



NOTE

Keep grease and oil off belts and pulleys.



Symbol	Use	Apply With	Procedure
	Lithium base automotive grease	Grease gun	<ol style="list-style-type: none"> 1. Wipe fitting clean with rag. 2. Apply 2 or 3 shots of grease. 3. Wipe up any excess grease.
	Medium weight (SAE 30) oil	Oil can	<ol style="list-style-type: none"> 1. Brush and wipe dirt and grass from area. 2. Apply a few drops of oil. 3. Wipe up any drips or spills.

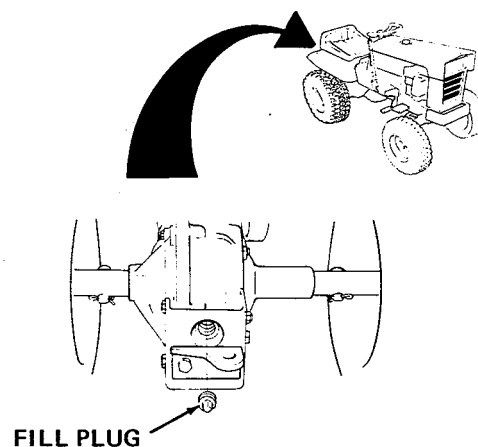
Figure 7. Lubricate Tractor (25-Hour Care)

NOTE

Allow 10 minutes after operation before checking transmission fluid level.

1. Check transmission fluid level.

- A. Remove fill plug.
- B. Fluid should be level with bottom of fill plug hole. If not, add SAE 90 weight transmission fluid.
- C. Install and tighten fill plug.

**2. Check battery fluid level.**

- A. Remove filler caps, one at a time.
- B. Fluid must be even with full mark at bottom ring. If not, add distilled water to refill.
- C. Install filler caps.

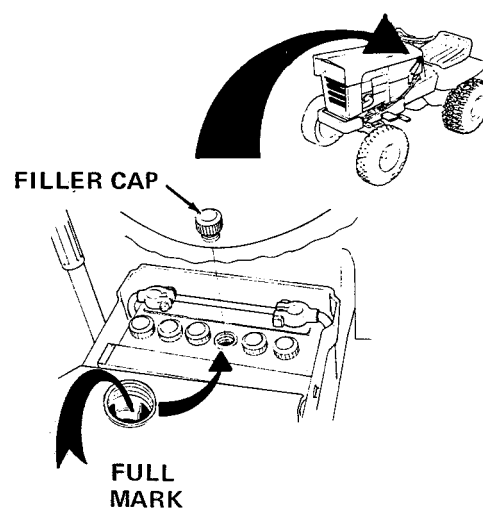
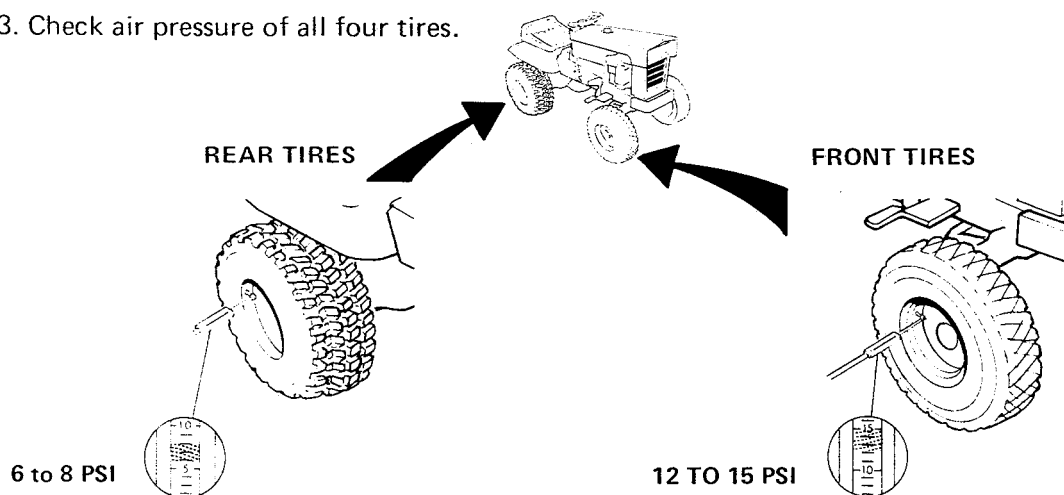
**3. Check air pressure of all four tires.**

Figure 8. Check Fluid Levels and Tire Pressures (25-Hour Care)

⚠ CAUTION

When removing or installing battery, always remove negative cable first, and replace it last.

1. Remove cables, negative cable first.

2. Remove clamp.

3. Remove battery.

4. Scrub battery, cables, and battery compartment. Use baking soda and water.

5. Clean terminals and cable clamps with wire brush.

6. Install battery and clamp.

7. Install cables, positive cable first.

8. Coat terminals and clamps with grease or vaseline.

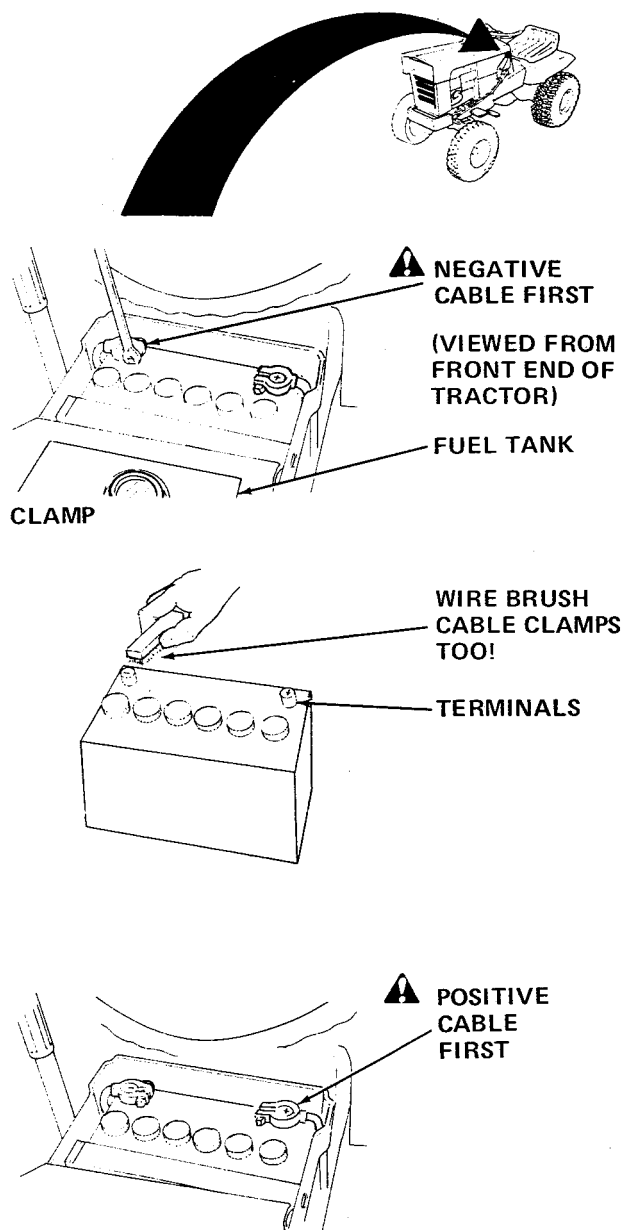
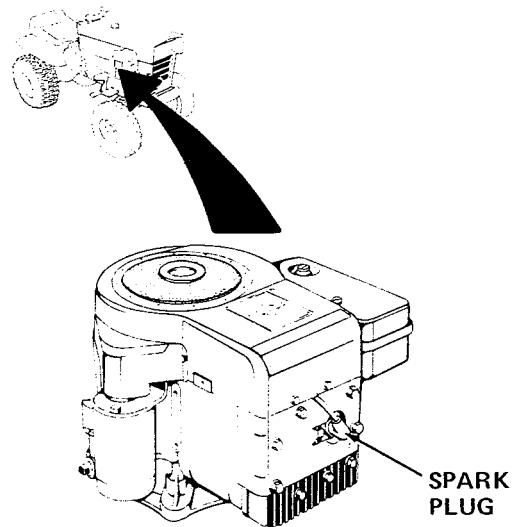


Figure 9. Clean Battery and Cables (100-Hour Care)

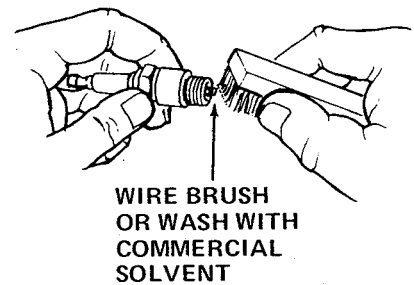
1. Remove spark plug.

CAUTION

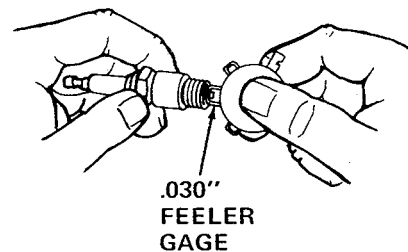
Do not clean spark plug by sand-blasting; sand or grit that remains on plug may damage engine.



2. Clean spark plug. If plug shows signs of defects, it should be replaced with a new plug.



3. Set gap at .030 inch.



4. Install spark plug in engine and reconnect wire.

Figure 10. Clean or Replace Spark Plug (100-Hour Care)

LUBRICATION CHECKLIST

EVERY 5 HOURS

- ☐ Check Engine Oil Level

EVERY 25 HOURS

- ☐ Change Engine Oil

Grease Fittings (2 or 3 shots of grease per fitting)

- ☐ Front Wheels (2)
☐ Front Steering Assembly (2)
☐ Rear Pivot Point (1)

Oil Points (a few drops at each point)

- ☐ Tie Rod Connections
☐ Front Idler Pivots
☐ PTO Clutch Rod Assembly
☐ PTO Lever Pivot
☐ Clutch Rod Assembly
☐ Brake Rod Assembly
☐ Steering Gear
☐ Drag Link Connections
☐ Lift Lever Pivot
☐ Lift Lever Latch
☐ Clutch Idler Pulley Bracket

(KEEP OIL AND GREASE OFF ALL BELTS AND PULLEYS)

NOTE

Use this checklist as an aid to lubricate your tractor. (See figure 7 for further reference).

Figure 11. Lubrication Check List

Troubleshooting

CONTENT OF SECTION

This section of the manual provides troubleshooting and repair instructions for the more common and easily corrected problems. For other problems, it is recommended that you contact your dealer.

WARNING

To avoid serious injury, perform maintenance on the tractor only when the engine is stopped. Always remove the ignition key before beginning the main-

tenance to prevent accidental starting of the engine.

TROUBLESHOOTING PROCEDURES

Troubleshooting procedures are provided in figure 12. To use these procedures, first locate the problem description that best describes the trouble that you have encountered. Check the possible causes one at a time in the order that they are listed. Correct any problems that are found and try to operate the tractor again to see if you have eliminated the trouble.

Problem	
1. Starter motor does not run.	<ul style="list-style-type: none">A. Gear shift lever not in neutral position.B. PTO clutch lever not in disengaged position.C. Fuse blown and must be replaced.D. Wiring loose or broken. Visually check wiring and replace broken or frayed wires; tighten loose connections. (See figure 22.)E. Battery terminals are corroded and require cleaning.F. Battery discharged or dead. Charge or replace as necessary.G. Solenoid or starter motor faulty. May need replacement.
2. Starter runs, but engine will not start.	<ul style="list-style-type: none">A. Out of fuel. Refill fuel tank.B. Engine flooded. Set engine control to SLOW and attempt to start.C. Crankcase oil too heavy. If so, replace oil per specifications in figure 6.D. Spark plug or points faulty, fouled, or poorly gapped.E. Water in fuel. Drain fuel and refill with fresh fuel.F. Old stale gas. Drain fuel and replace with fresh fuel.
3. Engine starts hard or runs poorly.	<ul style="list-style-type: none">A. Fuel mixture too rich. Move throttle control out of choke position. Clean air filter.B. Carburetor adjusted incorrectly.C. Spark plug or points faulty, fouled, or poorly gapped.

Figure 12. Troubleshooting Procedures

Figure 12. (Continued)

Problem	Cause
4. Engine knocks.	A. Low oil level. Check/add oil as required. B. Using wrong grade of oil. C. Engine worn, needs maintenance.
5. Excessive oil consumption.	A. Engine running too hot. Clean engine fins and blower screen. B. Using wrong weight of oil. C. Too much oil in crankcase.
6. Engine exhaust is black or smoky.	A. Dirty air filter. Clean air filter. B. Choke not fully open. Move throttle control out of choke position and be sure it opens fully; check carburetor adjustment.
7. Engine runs, but tractor will not drive or lacks power.	A. Transmission not in gear. B. Parking brake is engaged. C. Drive belt slips. (See problem and causes below.)
8. Drive belt slips.	A. Clutch free-travel or belt tension is incorrectly adjusted. B. Belt stretched or worn. Replace with correct belt. C. Clutch rod binding in guide; oil clutch rod.
9. Brake will not hold.	A. Brake (foot pedal or parking) is incorrectly adjusted. B. Brake lining is worn and requires replacement.
10. Tractor handles poorly.	A. Steering linkage is loose. Tighten any loose connections. B. Improper tire inflation. Check and correct. C. Wheels are spinning or slipping. Use weights to provide additional stability and traction. D. Moving too fast on slopes. Reduce speed.

Battery Replacement

A dead battery or one too weak to start the engine may not mean the battery needs to be replaced. It may, as an example, mean that the alternator is not charging the battery properly. If there is any doubt about the cause of the problem, see your dealer. If you need to replace the battery, proceed as shown in the battery cleaning procedure (figure 9.)

Belt Replacement

The main drive belt may eventually require replacement. If it does, make sure the wear or breakage of the old belt is not due to pulley misalignment or burrs

on the pulleys. Then replace the belt as follows:

1. Press the clutch-brake pedal down fully to remove tension from the belt and remove the old belt.
2. Continue to hold the clutch-brake pedal down while installing the new belt. Be sure that the belt is twisted properly. When viewed from the operator's position, the part of the belt leaving the left side of the engine pulley goes to the top side of the transmission pulley.
3. Check clutch-brake adjustment as described in the Clutch-Brake Adjustment procedure in the following section.

Adjustments

CONTENT OF SECTION

This section of the manual contains adjustment procedures for the tractor and engine. A simplified wiring diagram of the tractor (figure 22) is provided as an aid in locating electrical problems.

⚠ WARNING

To avoid serious injury, perform adjustment procedures on the tractor only when the engine is stopped. Always remove the ignition key before beginning the adjustment procedures to prevent accidental starting of the engine.

ADJUSTMENT PROCEDURES

Clutch-Brake Adjustment

Correct adjustment of the clutch and brake mechanisms is vital to smooth machine motion and tractor braking. These adjustments also affect operation of the parking brake. The total adjustment procedure consists of four adjustments. These four adjustments should be performed in the following order:

- Brake band adjustment
- Brake rod adjustment
- Clutch free-travel adjustment
- Clutch rod tension adjustment

Brake Band Adjustment. With clutch-brake pedal pressed down fully, check the contact between the brake band and brake drum. The band must conform fully to the curvature of the drum as shown in figure 12. If not, adjust the brake band as follows:

1. Loosen bolt (item B, figure 13).
2. Set parking brake.
3. Tighten bolt (item B).
4. Repeat check and adjustment until proper condition is obtained.

Brake Rod Adjustment. With clutch-brake pedal pressed down fully, measure the clearance between the pedal and the foot rest as shown in figure 14. The clearance should be approximately 2-1/2 inches. If not, adjust the brake rod as follows:

1. Release clutch-brake pedal.

2. Adjust position of elastic stop nut (item F, figure 14) on brake rod (item E). Move the nut toward the spring if the clearance was less than 2-1/2 inches; move the nut away from the spring if the clearance was more than 2-1/2 inches.

3. Repeat check and adjustment until proper condition is obtained.

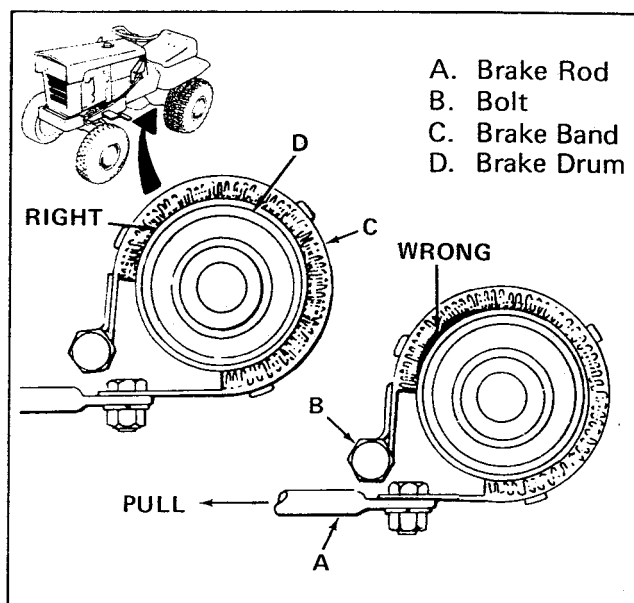


Figure 13. Brake Band Adjustment

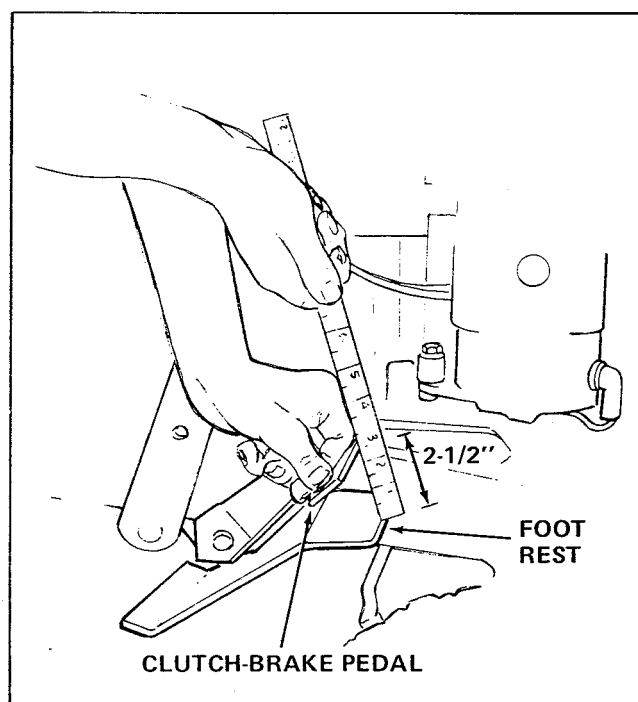


Figure 14. Brake Rod Check

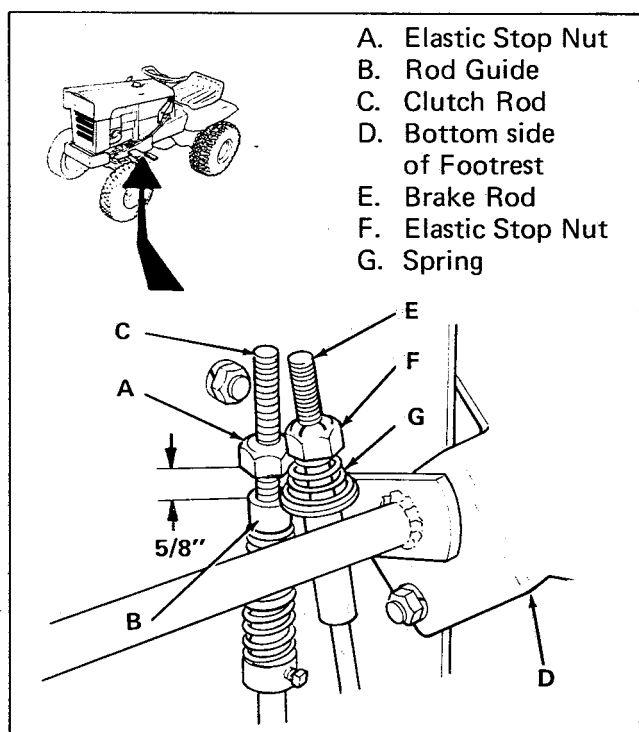


Figure 15. Brake Rod and Clutch Free-Travel Adjustments

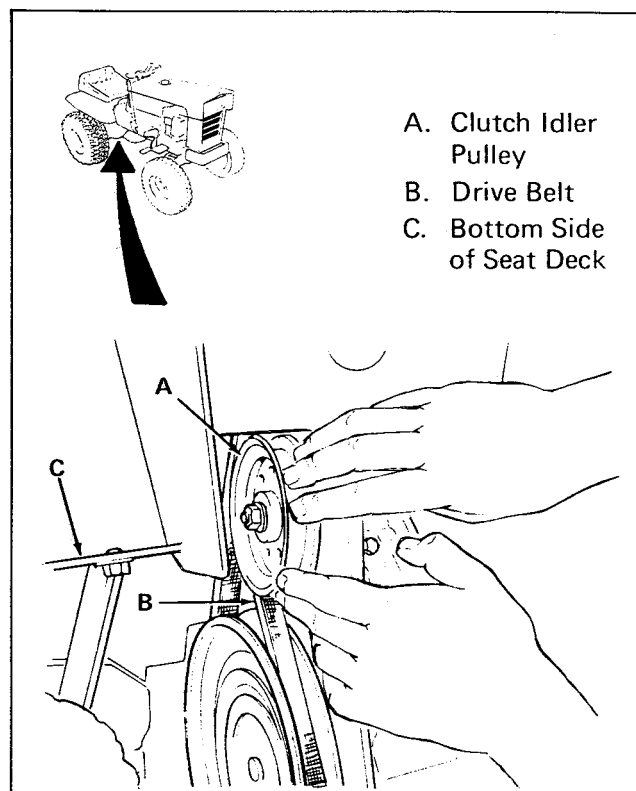


Figure 16. Clutch Idler Positioning

Clutch Free-Travel Adjustment. The clutch free-travel check and adjustment is performed as follows:

1. Insure that clutch-brake pedal remains released throughout adjustment.
2. Press clutch idler pulley (item A, figure 16) firmly against drive belt (item B). Make sure all slack is removed from belt.
3. Measure gap between elastic stop nut (item A, figure 15) and rod guide (item B) on clutch rod (item C). Adjust position of elastic stop nut (item A) as necessary to obtain gap of 5/8 inch between bottom of nut and top of rod guide.

Clutch Rod Tension Adjustment. The clutch rod tension adjustment is performed as follows:

1. Press and tie down clutch-brake pedal.
2. Loosen setscrew (item A, figure 17.)
3. Move collar (item B) front and back until spring (item C) is just free to rotate on clutch rod (item D).
4. Hold collar in position obtained in step 3 and tighten setscrew (item A).

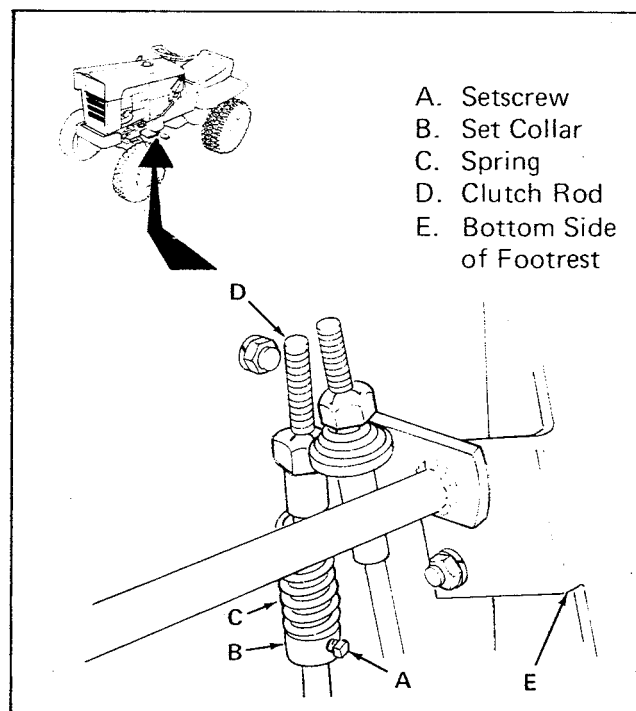


Figure 17. Clutch Rod Tension Adjustment

Parking Brake Adjustment

The parking brake should be tight enough so that it can prevent tractor movement in neutral and yet be easily placed in the engaged position. Before tightening the parking brake, check the condition and adjustment of the brake band. To adjust the parking brake raise the brake lever to the horizontal position as shown in figure 18. Then turn the lever clockwise to tighten the brake or counter-clockwise to loosen. At the completion of the adjustment, the lever should move up and down, up to engage brake, down to disengage. (See figure 18.)

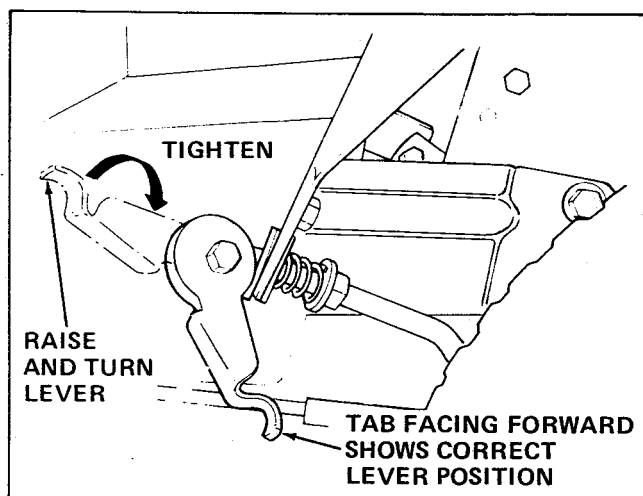


Figure 18. Parking Brake Adjustment

PTO Clutch Rod Adjustment

If a power-driven attachment such as a rotary mower or snow blower fails to drive, the PTO clutch rod guide may require adjustment. To check for proper adjustment, lower attachment, place the PTO clutch lever in the engaged (forward) position. Then measure the gap between the rod guide (item A, figure 19) and the set collar (item B). The gap should be $5/8$ inch for a rotary mower or $7/8$ inch for a snow blower. If not, perform adjustment as follows:

1. Place the PTO clutch lever in the disengaged (rearward) position.
2. Loosen the setscrew (item C) in the set collar (item B).
3. Move the PTO clutch rod slightly forward to increase the gap or slightly rearward to decrease the gap.
4. Retighten setscrew (item C).

5. Repeat check and adjustment until the proper gap is obtained when the PTO clutch is engaged.

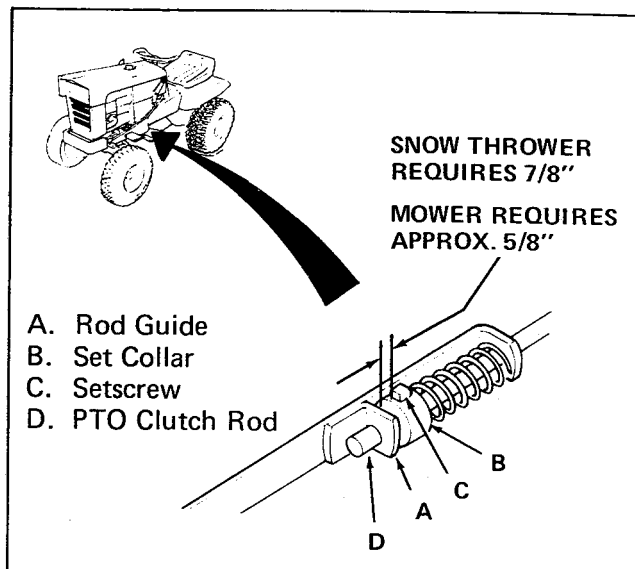


Figure 19. PTO Clutch Rod Adjustment

Belt Stop Adjustment

If the main drive belt does not stop when the clutch-brake pedal is depressed, the belt stop may need adjustment. (See figure 20.) The belt stops should be adjusted so there is a $1/16$ to $1/8$ inch gap between the belt stop and the belt when the belt is tight (clutch engaged). To adjust a belt stop, loosen the bolt that secures it and move the belt stop slightly before retightening the bolt. Then recheck the adjustment.

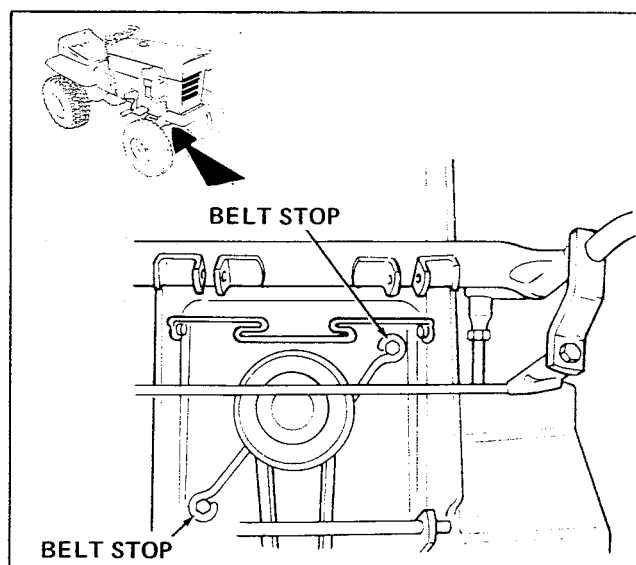


Figure 20. Belt Stop Adjustment

Raising Tractor Hood

1. Loosen thumbscrews on both sides at rear of hood.
2. Turn steering wheel lock right so that the flat side of the steering wheel is facing toward the front. This allows the hood to be raised without striking the steering wheel.
3. Raise hood upwards and forward until it rests in its raised position.

⚠ WARNING

Take care that the hood is not accidentally tipped back while working on or near the engine to prevent injury.

Seat Adjustment

The seat may be moved forward or backward to any of three different positions to suit different sized operators. To move the seat, proceed as follows:

1. Remove the four screws and lockwashers (items A and B, figure 21) that secure the seat to the seat deck.

2. Move the seat forward or backward to match the desired set of mounting holes in the rear deck.
3. Reinstall the four screws and lockwashers to secure the seat in place.

Wiring Diagram

A wiring diagram is provided in figure 22 to aid in troubleshooting and repair of electrical problems.

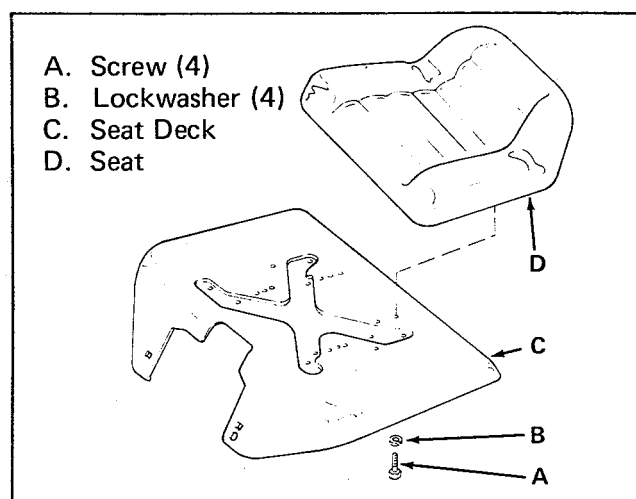


Figure 21. Seat Adjustment

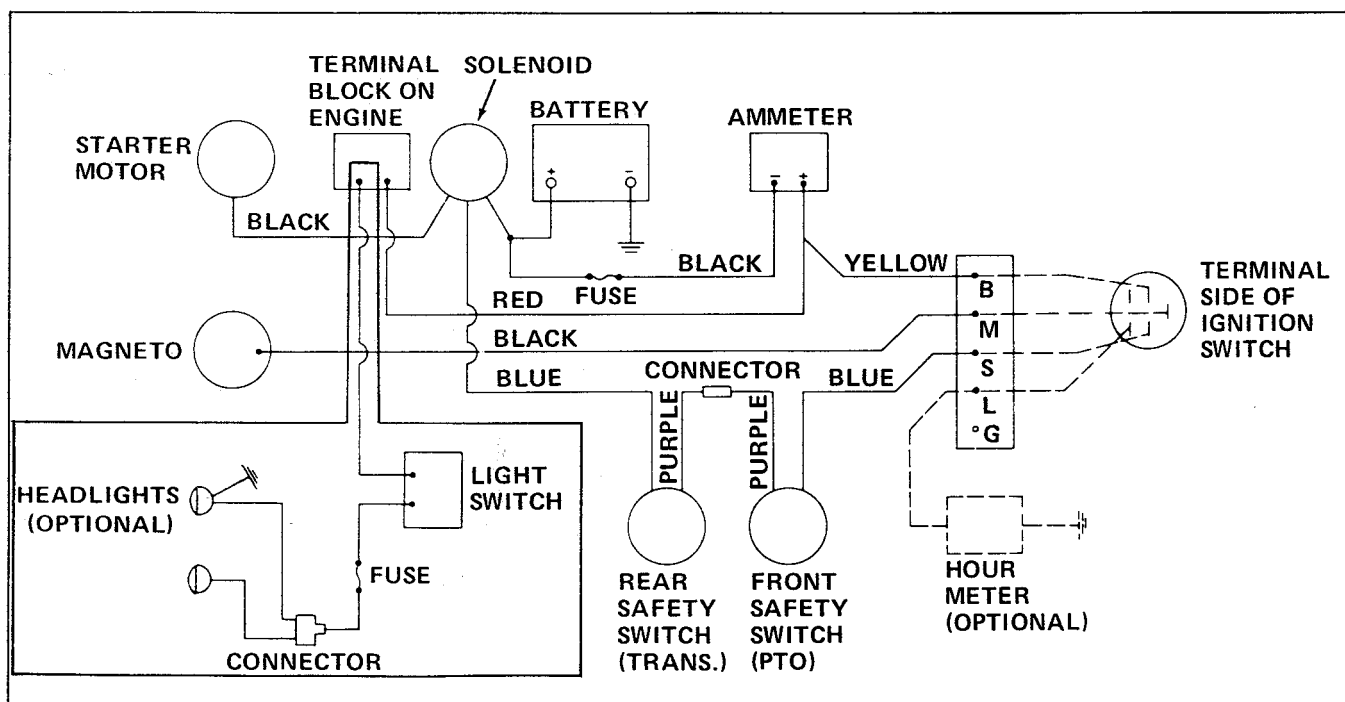


Figure 22. Electrical Wiring Diagram

Specifications

ENGINE	MAKE: BRIGGS AND STRATTON	5010 MODEL NO.: 251707 HORSEPOWER: 10 CYCLES: 4 CYLINDERS: 1 BORE: 3-7/16 Inches STROKE: 2-5/8 Inches DISPLACEMENT: 24.36 Cu. In. CRANKSHAFT: Vertical	5008 MODEL NO.: 190707 HORSEPOWER: 8 CYCLES: 4 CYLINDERS: 1 BORE: 3 Inches STROKE: 2-3/4 Inches DISPLACEMENT: 19.44 Cu. In. CRANKSHAFT: Vertical
	Electrical System	Dual Circuit Alternator	
		5010 – 12 Volt – 45 Amp. Hr. Automotive Battery	
		5008 – 12 Volt – 32 Amp. Hr. Automotive Battery	
		Key Ignition Switch	
		Ammeter on Instrument Panel	
	Ignition	TYPE: Flywheel Magneto w/Key Switch	
		Dust Proof Breaker Enclosure Under Flywheel	
	Governor	TYPE: Adjustable, Mechanical, Running In Oil	
		RANGE: 1500 to 3600 R.P.M.	
	Air Cleaner	Sealed Joint Housing, Oiled Foam Element	
		ELEMENT: Reusable Polyurethane Foam	
	Crankcase	BREATHING: Ventilated through Carburetor	
		LUBRICATION: Gear Impeller System	
		5010 OIL CAPACITY: 2-3/4 Pints	
		5008 OIL CAPACITY: 2-1/4 Pints	
	Fuel Tank	MATERIAL: Epoxy Resin Sealed, Terne Coated Steel	
		Fuel Level Gauge Built into Filler Cap	
		CAPACITY: 3-1/2 Quarts	
	Muffler	Quiet Compact, Low Back Pressure	
TRANSMISSION	Type	All Spur Gear, Running in Oil Bath	
	Material	GEARS: Heat Treated	
		SHAFTS: Hardened and Ground	
		BEARINGS: Needle Type Roller	
	Lubrication	SAE 90 OIL CAPACITY: 1 Quart	
	Speeds	Three Forward, One Reverse	
	Speed Range	LOW: Approximately 1.0 M.P.H.	
		SECOND: Approximately 2.8 M.P.H.	
		HIGH: Approximately 4.2 M.P.H.	
		REVERSE: Approximately 4.2 M.P.H.	
	Differential	All Gear, Controlled Traction Type	
CHASSIS	Frame Rear Wheels	Channel, Electrically Welded, Heavy Gauge Steel	
		POWER TAKE-OFF POINTS: Front and Rear	
		ENGINE MOUNTING: Above Front Axle	
		PIVOT POINT LOCATION: At Center of Frame	
		5010 TIRE SIZE: 20 x 8.00 – 10 Terra - Tread (Tubeless)	
		5008 TIRE SIZE: 18 x 9.50 - 8 Terra-Tread (Tubeless)	

CHASSIS (Cont'd)	Rear Wheels (Contd.)	PNEUMATIC INFLATION PRESSURE: 6 to 8 P.S.I.	
	Front Wheels	TIRE SIZE: 5.30/4.50-6	
		PNEUMATIC INFLATION PRESSURE: 12 to 15 P.S.I.	
		BEARINGS: Sintered Iron with Grease Fittings	
	Accessibility	Hood Tips Forward for Accessibility	
	Seat	TYPE: Bucket	
		COVER: Black Vinyl	
		POSITIONS: 3	
Turning Radius	INSIDE REAR TIRE: 26 Inches		
CONTROLS	Steering	Three Quarter Circle Steering Wheel	
		SYSTEM: 3.3 to 1 Ratio, Gear and Sector	
	Clutch And Brake Pedal	LOCATION: Right Front	
		CLUTCH: Soft Action, Touch-O-Matic V-Belt	
		BRAKE: External Band Type	
		Parking Brake Lock Standard Equipment	
	Location	IMPLEMENT LIFT LEVER: Right Side	
		POWER TAKE-OFF CLUTCH LEVER: Left Side	
		GEAR SELECTOR: Front Center of Seat	
		Ignition Key Switch	On Instrument Panel
		Light Switch (Optional)	
		Throttle Lever Combined	
		Choke Lever	
		Ammeter	
		PARKING BRAKE LOCK: Lower Left Of Seat	
DIMENSIONS	Overall Length	5010 – 60 Inches	5008 – 59 Inches
	Overall Width	31-1/2 Inches	
	Height	5010 – TO TOP OF STEERING WHEEL: 35-5/8 Inches	
		5008 – TO TOP OF STEERING WHEEL: 35-1/8 Inches	
		TO TOP OF ENGINE COVER: 31 Inches	
	Wheel Base	42-1/2 Inches	
Shipping Weight	5010 – 415 Lbs.	5008 – 408 Lbs.	

Accessories

There are many optional accessories available for your Simplicity tractor through your Simplicity dealer. They will make your tractor perform better, or make it easier to operate when using various attachments. See your Simplicity dealer if you wish to purchase any of the following:

WHEEL WEIGHTS – REAR

WHEEL WEIGHTS – FRONT

AUXILIARY WEIGHTS

FRONT LIGHT KIT

SNOW CAB

ENGINE WINTERIZING KIT

TIRE CHAINS

HOUR METER

HUB CAPS

Attachments

To make your Simplicity tractor most useful to you, a complete line of attachments is available through your Simplicity dealer. Contact him if you wish to purchase any of the following:

36" & 42" ROTARY MOWERS

VACUUM COLLECTOR

ROVING NOZZLE FOR VACUUM COLLECTOR

DUMP CART

CART COVER

26" LAWN REVITALIZER (Thatcher, aerator)

31" & 38" TRAILING SWEEPERS

32" ROTARY SNOW THROWER

42" SNOW PLOW AND DOZER BLADE

30" ROTARY TILLER

40" GRADER BLADE

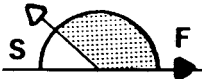
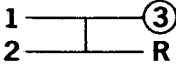

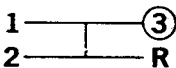

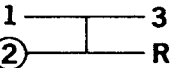

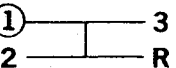

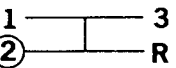

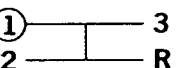

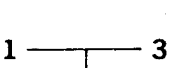



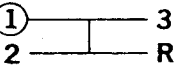
Attachment	Engine Speed Control	Transmission Gear Selection	Approx. Ground Speed (MPH)	Required Accessories and Options	Recommended Accessories and Options
Transporting Tractor			3 - 4.2		
36" or 42" Rotary Mower (rough terrain - heavy or wet grass)			3 - 4.2		2 rear wheel weights when mowing slopes 20-40% mowing slopes greater than 40% not recommended
36" or 42" Rotary Mower (Smooth terrain - normal grass)			2.8		2 rear wheel weights when mowing slopes 20-40% mowing slopes greater than 40% not recommended
26" Lawn Revitalizer			.75 - 1		Front Weight
32" Snow Thrower (Light Snow)			2-2.8	Engine Winterizing Kit	Tire chains 2 rear wheel weights rear weights
32" Snow Thrower (Heavy or wet snow)			1	Engine Winterizing Kit	Tire chains 2 rear wheel weights rear weights
42" Snow Plow and Dozer Blade			2-2.8	Engine Winterizing Kit	Tire chains 4 rear wheel weights 2 front wheel weights
40" Grader Blade			2-2.8		2 Rear wheel weights rear weight
30" Rotary Tiller			.75-1		2 rear wheel weights 1 front weight

Figure 23. Recommended Operating Speeds

Figure 24. Maintenance Record

PARTS MANUAL AVAILABLE FOR SYSTEM 5000

You can order a parts manual for your tractor and for your attachments. Check the appropriate box below for the parts manual(s) you want, enclose the form with a check or money order made out to SIMPLICITY in an envelope, and send them to:

Simplicity Manufacturing Co.
500 N. Spring Street
Port Washington, WI 53074

Parts manual TP-195 contains tractors 5008 and 5010, and 36" mower and 42" mower with hitch.

Parts manual TP-196 contains:

- 32" Snow Thrower
- 42" Snow Plow and Dozer Blade and Hitch
- 30" Tiller
- 26" Revitalizer
- 40" Grader Blade
- Vacuum Collector and adaptors
- Dump Cart and Cover
- and all available accessories.

=====

CUT HERE

=====

☐ I would like a parts manual (TP-195) for my System 5000 tractor and mower.
I am enclosing a check or money order for \$2.00.

☐ I would like a parts manual (TP-196) for my System 5000 attachments and accessories. I am enclosing a check or money order for \$2.00.

☐ I would like parts manuals for both the System 5000 tractors and the System 5000 attachments and accessories. I am enclosing a check or money order for \$4.00.

NAME _____ Tractor No. _____

STREET OR RFD _____

CITY _____ STATE _____ ZIP _____

(Allow Two To Three Weeks For Delivery)

Send this form with your check or money order to:

SIMPLICITY MANUFACTURING CO.
ATTN: CUSTOMER PUBLICATIONS
500 N. SPRING STREET
PORT WASHINGTON, WI 53074

LIMITED WARRANTY

New SIMPLICITY products sold by Simplicity Manufacturing Company are warranted by Allis-Chalmers Corporation (the Company) to be merchantable and free of defects in workmanship and material at the time of shipment from the Company's factory. **THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THOSE EXPRESSLY STATED HEREIN.**

No warranty of any kind, statutory, implied or otherwise, is made or shall be imposed upon the Company with respect to (1) new products which have been subject to operation in excess of recommended capacities, misuse, negligence, or accident, or have been altered or repaired in any manner not authorized by the Company, or (2) tires, engines, generators, voltage regulators or accessories that are warranted separately by their respective manufacturers except that the Company agrees to make available to the first user whatever warranty benefits may be made available to the Company by such manufacturer.

The Company will repair or replace, without charge, any part which under normal use and service fails to conform to this warranty, provided that such parts shall be returned to the Company's authorized Dealer, transportation charges prepaid, within 12 months from the date of delivery of such new product to the first user.

Parts installed by an authorized Dealer, including parts furnished under this warranty, are warranted to be free from defects in workmanship and material for a period of 90 days from the date of installation of such parts or to the expiration of the original warranty, whichever is later. The Company will repair or replace, without charge, any part not conforming to this warranty.

THE COMPANY'S LIABILITY ARISING OUT OF WARRANTIES, REPRESENTATIONS, INSTRUCTIONS, OR DEFECTS FROM ANY CAUSE, SHALL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACING PARTS UNDER THE CONDITIONS AS AFORESAID, AND IN NO EVENT WILL THE COMPANY BE LIABLE FOR CONSEQUENTIAL DAMAGES.

Service under the terms of this warranty must be obtained at an authorized Simplicity Dealer.

Rotary tiller tines are warranted against breakage for the normal life of the rotary tiller. Simply return any broken tine to an authorized Simplicity Dealer, and the broken tine will be replaced at no charge.